



UNITED STATES PATENT AND TRADEMARK OFFICE

coln

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/810,550	03/19/2001	Hideya Suzuki	501.39856X00	6806

24956 7590 06/30/2005

MATTINGLY, STANGER, MALUR & BRUNDIDGE, P.C.
1800 DIAGONAL ROAD
SUITE 370
ALEXANDRIA, VA 22314

EXAMINER

NG, CHRISTINE Y

ART UNIT PAPER NUMBER

2663

DATE MAILED: 06/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/810,550	Applicant(s) SUZUKI ET AL.	
	Examiner Christine Ng	Art Unit 2663	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 March 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 and 12-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 19 and 21 is/are allowed.
- 6) ☒ Claim(s) 1-10, 12-18 and 20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 March 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>3/19/01</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claim 7 is objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim cannot depend from any other multiple dependent claim. See MPEP § 608.01(n). Accordingly, the claim has not been further treated on the merits.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
3. Claim 2 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 2 recites the limitation "the object application" in line 3. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-3 and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,570,411 to Sicher.

Referring to claim 1, Sicher discloses a base station for assigning a radio

communication resource by scheduling time slots to mobile stations for data communication, comprising:

[Figure 3] Transmission (power amplifier 123' and attached antenna) and reception means (receiver 126' and attached antenna) for conducting communication with mobile stations. Refer to Column 5, lines 15-17 and Column 6, lines 25-29.

[Figure 1] Control means (central processor 23) for assigning a time slot (channel) preferentially to a first mobile station that needs to communicate with said base station for a first application (calls to police, fire department, etc. or calls needing handoff) that is given a higher priority over a second mobile station that needs to communicate with said base station for a second application that is given a lower priority lower than said higher priority given said first application. Call requests are stored in a queue in central processor 23. The call requests in the queue are served according to priority rankings, so that priority calls will preempt other queue entries in obtaining a channel. Priority is determined based on the called or calling number; calls to emergency services (police, fire department, etc) and calls needing handoff are given priority over other calls. Refer to Column 3, lines 1-3; Column 6, lines 52-61; and Column 7, line 52 to Column 8, line 52. Furthermore, the channels refer to time slots (Column 2, lines 59-62; Column 3, lines 49-50; and Column 4, lines 5-33 and lines 44-47).

Referring to claim 2, Sicher discloses that the base station comprises a priority distinguishing means (Figure 1, central processor 23) to distinguish the priority of the application (calls to police, fire department, etc. or calls needing handoff) from signal

data of radio channel assignment request (call request) sent from said mobile station. The central processor 23 assigns each queue entry a queue ranking and priority based on the called or calling number and the need for a channel from a radio perspective, where calls to emergency services receive priority. Refer to Column 6, lines 52-61 and Column 8, lines 2-20.

Referring to claim 3, Sicher discloses the base station comprises a storage means (Figure 1, database 24) to store mapping between a code (called phone number) representing an application to be offered (calls to police, fire department, etc. or calls needing handoff) to said mobile station over a radio communication channel, included in said signal data of radio channel assignment request (call request) and the priority of the application. Refer to the rejection of claim 2 and Column 6, lines 52-61 and Column 8, lines 2-20.

Referring to claim 20, Sicher discloses that said control means (Figure 1, call processor 23) assigns a time slot preferentially to said first mobile over said second mobile, said second mobile is made to wait for an assignment of a time slot at a later time. Priority calls preempt lower ranked calls in the queue of the central processor 23, so that the lower ranked calls must wait until another voice channel becomes available at another time. Refer to Column 8, lines 3-52.

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the

Art Unit: 2663

applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 12 and 13 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,771,627 to Wyrwas.

Referring to claim 12, Wyrwas discloses mobile station (Figure 3) for performing data communication with a base station (Figure 5) using at least two radio communication channels of a plurality of radio communication channels (Figure 2), comprising:

[Figure 3] Transmission and reception means (antenna 57) for controlling communication with said base station. Refer to Column 3, lines 57-63.

[Figure 3] Control means for handling data transmission/reception over a plurality of radio communication channels in parallel including additional channels when it is notified that additional channels are assigned to it from said base station. The base station SAN assigns two channels of the plurality of channels (shown in Figure 2) to communicate with the mobile user UT. In the disclosed example, the same information is transmitted from SAN to UT over the channels b_{11-t_1} and b'_{12-t_2} . The UT receives information from both channels. Refer to Column 3, lines 3-54.

Referring to claim 13, Wyrwas discloses that said control means selects and handles data received over a channel that is regarded as being the most reliable out of the data received over a plurality of radio communication channels assigned to it. In the disclosed example, the same information is transmitted from SAN to UT over the channels b_{11-t_1} and b'_{12-t_2} . The UT receives information from both channels and

Art Unit: 2663

determines which provides the best quality link from the SAN and transmits back to the SAN using the corresponding link. Refer to Column 3, lines 42-54.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,570,411 to Sicher in view of U.S. Patent No. 6,771,627 to Wyrwas.

Sicher discloses that that base station assigns the best one of the available voice channels in terms of one or more performance criteria to calls of high priority. Refer to Column 8, lines 33-52.

However, Sicher does not disclose that the base station assigns a plurality of radio communication channels to said mobile station that is making an attempt to communicate with said base station and call an application that is given high priority.

Wyrwas discloses that the same call can be transmitted over two or more channels. Since the quality of signals received from a channel varies from time to time, the "likelihood of the signals in all of the channels being unusable at the same time is much lower than the likelihood of one channel being unusable". Refer to Column 1, lines 18-28. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include that the base station assigns a plurality of radio communication channels to said mobile station that is making an attempt to

communicate with said base station and call an application that is given high priority; the motivation being so that high priority calls will not only be assigned the best channels but will also be assigned multiple channels in case one of the channels fails, thereby ensuring that the high priority calls are successfully transmitted.

10. Claims 5, 6 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,570,411 to Sicher in view of U.S. Patent No. 6,771,627 to Wyrwas, and in further view of U.S. Patent No. 5,862,485 to Linnewah et al.

Referring to claim 5, Sicher discloses that the base station comprises a means (Figure 2, central processor 23) to measure radio communication quality (bit error rate) of the channel between said base station and said mobile station. Refer to Column 8, lines 33-64.

Sicher does not disclose that the base station comprises: a control means to make said base station assign a plurality of radio communication channels to said mobile station on the basis of said priority when radio communication quality less than a predetermined quality-indicating-value has been measured by said means to measure radio communication quality.

Linnewah et al discloses in Figure 1 that the base station (Element 101) comprises: A means (not shown) to measure radio communication quality (bit error rate) of the channel between said base station 101 and said mobile station 112 (Refer to Column 8, lines 46-49); and a control means (not shown) to make said base station 101 assign a plurality of radio communication channels to said mobile station 112 on the basis of said priority when radio communication quality (bit error rate) less than a

Art Unit: 2663

predetermined quality-indicating-value (threshold bit error rate of 7%) has been measured by said means to measure radio communication quality. Refer to Column 8, lines 49-63. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include a control means to make said base station assign a plurality of radio communication channels to said mobile station on the basis of said priority when radio communication quality less than a predetermined quality-indicating-value has been measured by said means to measure radio communication quality; the motivation being so that when a priority call experiences a bad communication channel, more channels can be assigned to the call in order to prevent it from being disconnected and maintain its transmission.

Referring to claim 6, Siche discloses that the base station comprises a transmission/reception means (power amplifier 123' and attached antenna, receiver 126' and attached antenna) to transmit/receive data over said radio communication channels. Refer to Column 5, lines 15-17 and Column 6, lines 25-29.

However, Siche does not disclose that the transmission/reception means transmits/receives data of the same contents over the radio communication channels. Refer to the rejection of claim 4.

Referring to claim 8, Siche discloses that the means (Figure 1, central processor 23) to measure radio communication quality calculates a ratio of the received time slots in error to the number of received time slots for a regular period. Voice channels can be evaluated base on bit error rate BER. Refer to Column 8, lines 53-64. BER is the

Art Unit: 2663

percentage of bits that have errors relative to the total numbers of bits received in a transmission.

11. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,570,411 to Sicher in view of U.S. Patent No. 6,704,577 to Hughes.

Sicher does not disclose that the base station comprises a paging means for broadcasting the paging information on available applications.

Hughes discloses that the base station broadcasts messages which are received by all remote units within the base station coverage area on a "paging channel" (Column 5, lines 23-25). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include that the base station comprises a paging means for broadcasting the paging information on available applications; the motivation being so that all mobile stations within the base station's cell will be informed of the applications, since the mobile stations continually monitor the paging channel. Refer to Column 5, lines 25-37.

12. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,570,411 to Sicher in view of U.S. Patent No. 6,816,500 to Mannette et al.

Sicher et al do not disclose that the storage means is to retain different priority from that retained in its adjoining base station even if said priority is given to a same application that both base stations offer it over their communication channels.

Mannette et al disclose a system wherein priorities are assigned to different applications, such as giving emergency services the highest or first comparative priority and data services the lowest level of priority. The assignment of priorities is modifiable

Art Unit: 2663

depending on the needs or requirements of a service provider. Adjust service providers may provide different levels of priorities depending on their own preferences. Refer to Column 10, line 39 to Column 11, line 6. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include that the storage means is to retain different priority from that retained in its adjoining base station even if said priority is given to a same application that both base stations offer it over their communication channels; the motivation being that some base stations may see certain services as more important than other services, depending on their location or usage.

13. Claims 14-16 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,570,411 to Sicher in view of U.S. Patent No. 6,771,627 to Wyrwas, and in further view of U.S. Patent No. 5,862,485 to Linnewah et al.

Referring to claim 14, Sicher discloses a digital radio data communication system for multi-applications comprising:

[Figure 3] A base station.

[Figure 2] A plurality of mobile stations.

Wherein the mobile stations send the base station signal data of radio channel assignment request (call request) including a code (called phone number) representing an application (calls to police, fire department, etc. or calls needing handoff) to be offered over a radio communication channel. Refer to the rejection of claims 2 and 3.

Wherein the base station comprises:

Means (Figure 1, central processor 23) of distinguishing the priority of the

Art Unit: 2663

application, based on the code representing the application included in said signal data of radio channel assignment request sent from the mobile stations. Refer to the rejection of claims 2 and 3.

Means (Figure 1, central processor 23) of assigning one radio communication channel or a plurality of channels to the mobile stations, based on said priority, according to said signal data of radio channel assignment request sent from the mobile stations. Refer to the rejection of claim 4.

At least either said base station or each mobile station comprises a function of measuring the radio communication quality of the channel therebetween. Refer to the rejection of claim 5.

Wherein the base station further comprises:

A means to implement that if predetermined radio communication quality is not attained in a radio communication channel to be used for a higher priority application, in addition to the pre-assigned channel, a new channel is reassigned to the mobile station using that channel so that same contents will be transmitted over a plurality of channels in parallel. Refer to the rejection of claim 5 and claim 12.

Referring to claim 15, Sicher discloses that the said radio communication channels are provided in time slots by time division. The channels refer to time slots in a TDMA system. Refer to Column 2, lines 59-62; Column 3, lines 38-40 and lines 49-50; and Column 4, lines 5-33 and lines 44-47.

Referring to claim 16, refer to the rejection of claim 8.

Referring to claim 18, Sicher does not specifically disclose that a specific application service area comprises two or more contiguous cells.

However, application services such as the emergency services are offered to all areas. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include that a specific application service area comprises two or more contiguous cells; the motivation being that all mobile stations in call cells must be provided with contact to emergency services.

14. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,570,411 to Sicher in view of U.S. Patent No. 6,771,627 to Wyrwas in view of U.S. Patent No. 5,862,485 to Linnewah et al, and in further view of U.S. Patent No. 6,704,577 to Hughes. Refer to the rejection of claim 9.

Allowable Subject Matter

15. Claims 19 and 21 are allowed.

Conclusion

16. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the


Art Unit: 2663


shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christine Ng whose telephone number is (571) 272-3124. The examiner can normally be reached on M-F; 8:00 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on (571) 272-3139. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

C. Ng 
June 14, 2005


RICKY NGO
PRIMARY EXAMINER

